Jack B. DENNIS

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-30 are pending in the

application, with 1, 11 and 21 being the independent claims. Claims 1, 6-8, 10, 11, 21,

26-28, and 30 are sought to be amended. These changes are believed to introduce no

new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicant

respectfully requests that the Examiner reconsider all outstanding rejections and that they

be withdrawn.

Rejections under 35 U.S.C. § 102

Claims 1-5, 8, 9, 11-15, 18, 19, 21-25, 28, and 29 have been rejected under 35

U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 5,968,167 to Whittaker

et al. ("Whittaker"). Applicant respectfully traverses this rejection.

Amended independent claim 1 recites, *inter alia*, "at least two resource units …

wherein each of the resource units is configured to implement only a subset of

instruction types of an instruction set." The Office Action compares the resource units of

the present application to an instruction buffer and control unit of Whittaker, stating that

the instruction buffer and control unit combination "implements the instruction types of

each thread stored in the instruction buffer by executing the array of logic gates of the

control unit." (Office Action, p. 3). Additionally, the Office Action states that the array

of logic gates "determine whether an instruction (instruction being stored in the

instruction buffer) can run or not based on the instructions read from the instruction buffer." (Office Action, p. 8).

The function of the instruction buffer with the control unit in Whittaker is to store a thread's "next microinstruction and instruction operations." (Whittaker, col. 7, l. 61 - col. 8, l. 8). For each instruction buffer, a resource check and priority selection is then performed within a media control core, and instructions are executed. (Whittaker, col. 3, ll. 56-65; FIG. 6).

Since all of the instructions from any instruction buffer in Whittaker are handled by the media control core, the media control core is therefore a general purpose processing unit capable of handling any instruction type that may be presented within the instruction buffer. Specifically, if the instruction buffer with control unit in Whittaker processes any media control core instruction indiscriminately, then there are no differences between any available instruction buffers and control units. (see FIG. 6, generally). In contrast, the present application states that the instruction registers have a resource specifier that "specifies the resource(s) (e.g., functional units, memory access unit) needed on the next machine cycle to execute (or start execution of) the instruction held in the instruction register." (Dennis Application, p. 13, ll. 15-20). Accordingly, instructions in the present application are assigned to those resources which have the capability of processing that type of instruction (e.g., functional instructions are assigned to functional units, memory access instructions are assigned to memory access units).

Independent claim 1 has been amended to further clarify this distinction. Since Whittaker teaches the use of a general purpose processing unit to process any instruction type originating from an instruction buffer, it cannot be said that Whittaker teaches or

suggests that "each of the resource units is configured to implement only a subset of instruction types of an instruction set," as recited in amended independent claim 1. For at least these reasons, independent claim 1 is patentable over Whittaker. Reconsideration and withdrawal of this rejection is therefore respectfully requested.

Independent claims 11 and 21 have been rejected for similar reasons as independent claim 1. Claims 11 and 21 both recite that "each of the resource units is configured to implement only a subset of instruction types of an instruction set," and are therefore not anticipated by Whittaker for similar reasons as independent claim 1. Reconsideration and withdrawal of these rejections is therefore respectfully requested.

Claims 2-5, 8, and 9 are also not anticipated by Whittaker for similar reasons as independent claim 1 from which they depend, and further in view of their own respective features. Claims 12-15, 18, and 19 are not anticipated by Whittaker for similar reasons as independent claim 11 from which they depend, and further in view of their own respective features. Claims 22-25, 28, and 29 are not anticipated by Whittaker for similar reasons as independent claim 21 from which they depend, and further in view of their own respective features. Reconsideration and withdrawal of these rejections is therefore respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 6, 7, 10, 16, 17, 20, 26, 27, and 30 have been rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Whittaker in view of U.S. Patent No. 5,752,031 to Cutler et al. ("Cutler"). Applicant respectfully traverses this rejection.

Cutler does not cure the deficiencies of Whittaker relative to independent claim 1. Accordingly, claims 6, 7, and 10 are patentable over the combination of Cutler and Whittaker for at least the reasons advanced with regard to independent claim 1 from which they depend, and further in view of their own respective features. Similarly, Cutler does not cure the deficiencies of Whittaker relative to independent claims 11 and 21. Accordingly, claims 16, 17, and 20 are patentable over the combination of Cutler and Whittaker for at least the reasons advanced with regard to independent claim 11 from which they depend, and further in view of their own respective features. Additionally, claims 26, 27, and 30 are also patentable over the combination of Cutler and Whittaker for at least the reasons advanced with regard to independent claim 21 from which they depend, and further in view of their own respective features. Reconsideration and withdrawal of these rejections is therefore respectfully requested.

Conclusion

All of the stated grounds of rejection have been properly traversed,

accommodated, or rendered moot. Applicant therefore respectfully requests that the

Examiner reconsider all presently outstanding rejections and that they be withdrawn.

Applicant believes that a full and complete reply has been made to the outstanding

Office Action and, as such, the present application is in condition for allowance. If the

Examiner believes, for any reason, that personal communication will expedite

prosecution of this application, the Examiner is invited to telephone the undersigned at

the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully

requested.

Respectfully submitted,

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